

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) Integrated circuit comprising a plurality of processing modules (M; I; S; T), and a network (N; RN), and at least one resource manager (RM) for managing resources of the network (N), wherein the modules, network and resource manager are disposed on a chip and arranged for providing at least one connection between a first and at least one second module, wherein the at least one connection comprises a set of communication channels each having a set of connection properties, the connection properties of the different communication channels of said connection being adjustable independently, wherein said connection supports transactions comprising at least one of outgoing messages from the first module to the second module and return messages from the second module to the first module, wherein the resource manager determines whether the at least one connection with said communication channels is available based on the connection properties being available.

2. (Currently Amended) Integrated circuit according to claim 1, further comprising: at least one communication managing means (CM) for managing the communication between different modules; ~~and at least one resource managing means (RM) for managing the resources of the network (N).~~

3. (Currently Amended) Integrated circuit according to claim 2, wherein said first module (M; I) is adapted to issue a request (REQ) for a connection with at least one of said second modules to said communication managing means (CM), said communication managing means (CM) is adapted to forward said request (REQ) for a connection with communication channels each having a specific set of connection properties to said resource managing means (RM), ~~said resource managing means (RM) is adapted~~

~~to determine whether the requested connection based on said communication channels with said specific connection properties are available, and to responding with~~ the availability of the requested connection to said communication managering means (CM), wherein a connection between the first and second module is established based on the available properties of said communication channels of said connection.

4. (Currently Amended) Integrated circuit according to claim 2, wherein said communication managering means (CM) is adapted to reject establishing a connection based on the available connection properties when the available connection properties are not sufficient to perform the requested connection between said first and second module (M, I, S, T).

5. (Currently Amended) Integrated circuit according to claim 2, wherein said communication managering means (CM) is adapted to request a reset of the connection between said first and second module (M, I, S, T), when said modules have successfully performed their transactions.

6. (Previously Presented) Integrated circuit according to claim 2, further comprising: at least one network interface means (NI), associated to each of said modules, for managing the communication between said modules and said network (N).

7. (Currently Amended) Method for exchanging messages in an integrated circuit comprising a plurality of modules, the messages between the modules being exchanged over connections via a network, wherein said connections comprises a set of communication channels each having a set of connection properties, any communication channel being independently configurable, wherein said connection through the network supports transactions comprising at least one of outgoing messages from the first module to the second module and return messages from the second module to the first module and further comprising the steps of:

the first module issuing a request for a connection with the second module to a communication manager, wherein the request comprises desired connection properties associated with the sets of communication channels;

the communication manager forwarding the request to a resource manager;

the resource manager determining whether a target connection with the desired connection properties is available;

the resource manager responding with the availability of the target connection to the communication manager; and

the target connection between the first and second module being established based on the available properties of said communication channels of said connection.

8. (Previously Presented) The Integrated circuit of claim 1, further comprising at least one of a switch and a router.

9. (Previously Presented) The Integrated circuit of claim 1, further comprising a chip, wherein the processing modules and the network are disposed on said chip.

10. (Previously Presented) The method of claim 7, wherein the network manages traffic utilizing at least one of a switch and a router.

11. (Previously Presented) The method of claim 7, wherein the processing modules and the network are disposed on a chip.

12. (New) The Integrated circuit of claim 1, wherein the connection properties comprise at least one of data transport ordering, flow control, throughput, latency, and lossiness.

13. (New) The method of claim 7, wherein the connection properties comprise at least one of data transport ordering, flow control, throughput, latency, and lossiness.

14. (New) The method of claim 7, further comprising the resource manager determining whether the target connection with the desired connection properties is available based on reading of a centralized or distributed property table comprising properties associated with the network.

15. (New) The method of claim 7, further comprising the resource manager reserving the target connection after determining whether the target connection with the desired connection properties is available.

16. (New) The method of claim 15, further comprising the communication manager rejecting establishing a connection based on the available connection properties when the available connection properties are not sufficient to perform the requested connection between said first and second modules.

17. (New) The method of claim 16, further comprising the communication manager sending a release request to the resource manager to release the reservation of the communication channels associated with the target connection when the target connection is refused.

18. (New) The method of claim 7, wherein the connection properties comprise at least one of throughput, latency and jitter.